**AstroBoost – Hershel Experiment – Risk Assessment**

**Activity outline:**

Supervised indoor/outdoor activity using a prism to split sunlight into a spectrum, with blackened spirit thermometers placed to absorb different parts of the spectrum (or outside the spectrum), allowing their temperature readings compared.

**Version:**

Original pro-forma as supplied by RAS, this is not a complete document and should be amended as required for each context. You may wish to develop different versions (eg indoor vs outdoor) to avoid this document becoming long and difficult to read. You can change the format, remove the branding, edit as you choose, but you must keep written copies of adequate risk assessments for any activity delivered within the AstroBoost project. Control measures should all be necessary, and practical to be followed at all times.

**This document version is a pro-forma risk assessment provided as a starting point for your own assessment**

The Royal Astronomical Society is unable to offer a thorough risk assessment that would apply for any delivery team in any situation, and therefore this document is intended only as a starting point for any organisation preparing to delivery the activities, to help speed the process and reduce the chance of unidentified risks.

The person responsible for H&S at each event should:

1. Review whether any changes are necessary for that specific event (eg due to differing experience of delivery staff, unusual audiences, venue or weather)
2. Ensure everyone involved in delivery of the activity has read, understood and agreed to follow the control measures in the risk assessment
3. Update the risk assessment after the event in light of any newly-identified risks, near misses or accidents that occurred during delivery
4. Inform the Royal Astronomical Society if any additional risk rated 10 or higher is identified where this risk is not specific to an unusual audience/venue

Name of organisation:

Name of person signing off this version of the risk assessment:

Date of sign-off: Date for review:

**AstroBoost - Hershel Experiment – Risk Assessment**

Risk: 1 = trivial; 2 = minor; 3 = requiring time off work; 4 = long term injury; 5 = death

Likelihood: 1 = rare; 2 = unlikely; 3 = occasional; 4 = regular; 5 = frequent

Risk rating: Gives a quick guide to which risks should be subject to tighter control measures. Ratings of 12 or higher are unacceptable under any circumstance.

**General items:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Object/activity (the hazard) | Who might be harmed, and how? | Control measures (protocols you will follow to reduce the risk) | Risk (worst possible harm) | Likelihood | Risk rating |
| Venue as presented on arrival | Various. For example:  Uneven floor – slips  Clutter – tripping / cuts  Electrical safety – shock | On arrival, visually check the room for any hazards over those addressed on this risk assessment. Identify required control measures. If the space is unsafe for audience or presenter, do not proceed.  For outdoor venues, check that electrical power supply is appropriate for outdoor use. | 5 | 1 | 5 |
| All objects | All. Trip/slip hazard. Falling, hitting head. | Where the experiment is carried out on the floor/ground, this must not be in a walkway. The area must be supervised at all times, and the activity clearly visible to ensure that people are aware of the risk. Where possible, a tall object (eg chairs, signage) should be used to increase visibility. | 5 | 1 | 5 |
| Heavy objects (including prism) | All. Dropping onto foot or onto small child.  Striking person, bruising. | Heavy objects not to be held over small children!  Presenter to stop anyone from uncontrolled/dangerous brandishing of objects that may cause harm. | 3 | 1 | 3 |

**Activity-specific items:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Object/activity (the hazard) | Who might be harmed, and how? | Control measures (protocols you will follow to reduce the risk) | Risk (worst possible harm) | Likelihood | Risk rating |
| Prism | Cuts to skin and eyes from sharp fragments/edges.  Contusions if dropped eg onto small child’s head. | Prism not to be used by children under 4yr.  Presenter to dynamically assess risk for all children. Use by ages under 8yr only under direct adult supervision (ie adult within reach of object). Ages 8yr to 12yr with general supervision (ie adult close by and within sight).  Where prism is mounted, this must be done in such a way that if the mounting were to fail, it would not fall on a person or metal/hard surface.  If the prism is dropped/damaged, it must be immediately checked for sharp edges. Carefully clear any sharp fragments. Presenter to then re-assess the risk. Small sharp areas may be assessed as safe to use for people over 8yr who have been clearly shown the hazard before touching the prism.  Sharp areas should be taped or otherwise covered at the earliest opportunity. Where this is not adequate to prevent injury, the prism should be taken out of use. | 3 | 1 | 3 |
| Thermometer | Cuts to skin and eyes from glass fragments. | Spirit thermometers to be used (NOT mercury).  Thermometers are delicate items. Not to be handled by children under 8yr and then only under controlled conditions. | 3 | 2 | 6 |

**AstroBoost activity – Hershel Experiment – RA sign off**

This activity will be delivered many times. Although some risks are unlikely, anything that can happen *will* happen eventually. By following the control measures, the overall risk for long-term delivery over multiple events with multiple presenters is reduced to an acceptable level. When accidents doinevitably happen, it can be demonstrated that risks had been identified and managed appropriately.

If you feel any measures are not necessary, or are not being followed in practice, please check with the event leader to discuss the removal or amendment of that item.

Please sign below to confirm that you have read and understood the risk assessment and that you will follow the control measures as directed by this document.

|  |  |  |
| --- | --- | --- |
| **Name (print clearly)** | **Signature** | **Date** |
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